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The following Chapter in Professor Tafel's communication, entitled "Investigations into the Laws of English Orthography and Pronunciation," was not received in time for publication in its proper place, following page 376 of Vol. VIII.

CHAPTER XIII.

THE ELEMENTARY SOUNDS OF THE ENGLISH LANGUAGE, REPRESENTED IN WRITING.

§ 47. I HAVE now examined the mode in which the elementary sounds of the English language are formed by the organs of speech. I have investigated the manner in which they combine with one another in the formation of syllables; and I have finally shown the process by which the syllables are connected so as to form words. The only subject that yet remains for discussion in connection with the physiological part of the English language is accent; for by accent the words are imbued, as it were, with living breath, or are individualized, and by it they are prepared for their work of expressing the human thought. English accent, however, is such an extensive subject that I reserve its discussion for a future part of my investigations. Meanwhile, I shall exhibit the various methods resorted to in the English language for the expression of the several elementary sounds of speech. In the preparation of this chapter I have been assisted very much by the works of the phoneticists, such as Ellis, Comstock, etc., who have taken particular pains in collecting all those instances, in which the English language, according to their ideas, has sinned against the rules of sound spelling.





The elementary vowel-sounds of the English language have been collected in § 6, in the following table:

LONG.	SHORT.	LONG.	SHORT.
1. <i>father</i> , . . .	— . . .	8. <i>sheep</i> , . . .	9. <i>ship</i> ,
2. <i>fast</i> , . . .	3. <i>fat</i> , . . .	10. <i>pool, flute</i> , . . .	11. <i>pull</i> ,
4. <i>age, bane</i> , . . .	5. <i>end</i> , . . .	12. <i>note</i> , . . .	— . . .
6. <i>fare</i> , . . .	7. <i>fell, let</i> , . . .	13. <i>off, all</i> , . . .	14. <i>not, what</i> .
	15. <i>her, bird</i> , either long or short.		
	16. <i>love, but</i> , always short.		

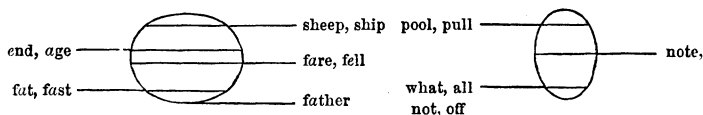
[REM.—The only departure I allowed myself in the present table,

is that of regarding the vowels *e* in *end* and *fell* as two distinct sounds; the former as the corresponding short sound of *a* in *age*, and the latter of *a* in *fare*. In § 6, I was inclined to regard them as identical, or almost so, because in some individuals whose pronunciation I then studied, I could not detect any difference between them; they gave to both vowels a sort of middle sound between *a* in *age* and *fare*. Upon reconsidering this subject lately, and examining the pronunciation of other careful speakers of the English language, I came to the conclusion that there does exist a difference in the pronunciation of these two sounds in the English as well as in the German, French, and other languages. In order to prove that the same distinction of sound which exists between the long sounds of *a* in *fate* and *fare*, continues among the short sounds, compare the sounds of *e* in *end* and *let*, and this is best done by starting with the words *bane* and *late* (where the vowel *a* is pronounced alike), and winding up with the words *end* and *let*, thus *bā-ënd*, *lā-ët*. By doing so, it will be found that the sound of *e* in *end* is but a continuation of *a* in *bane*, while that of *e* in *let*, is broader than *a* in *late*.]

In the above table I have not endeavored to express the various vowel-sounds by peculiar signs, but I have limited myself to collecting such words in which these sounds are exhibited; but henceforth it will be necessary to represent these sounds abstractly from the words in which they occur, and for this purpose I propose the signs introduced in the next table.—These are not arbitrary signs, but each represents the shape of the mouth, and the position of the tongue in the pronunciation of the several vowel-sounds.

In taking an external view of the shape of the mouth in the pronunciation of the several vowel-sounds, we see that in the pronunciation of the vowels from 1 to 9, the mouth is extended, viz., , but in the pronunciation of the vowels from 10 to 14 it is contracted, viz., . Also, in the diagram of § 6, which delineates the position of the tongue in the pronunciation of each of these sounds, we see that in the pronunciation of *a* in *father*, the tongue lies flat in the mouth; therefore, the sign , in which the mark (○) denotes the position of the tongue, will be used for the representation of this sound. In the pronunciation of *a* in *fast* the tongue is slightly raised; this sound, therefore, is represented by ; and so forth.

















The following diagrams will furnish a key for these signs :





Of the two marks used in pointing out the position of the tongue, the one which is white, viz., (○), represents the long vowels, and the other which is black, viz., (●), the short : these marks are borrowed from musical notation.

As regards the names by which to call the signs, I propose to follow the same plan which is pursued in the alphabet. Thus *a* in *age* will be called long *ā*, and its corresponding short sound, viz., *e* in *end*, short *ă* ; *o* in *note*, will be called long *o* ; *a* in *father*, long *ah* ; *a* in *fast* or *aft*, long *a* (*ft*) ; and *a* in *fat*, short *a* (*ft*)—the two consonants in brackets are not to be pronounced, but the vowel *a* is to receive that sound which it has in *aft*. *A* in *fare*, and *e* in *fell*, I call *ai* (*r*) ; *a* in *all* and *what*, or *o* in *off* and *not*, *au*, or *awe*, and *u* in *flute* and *pull*, *oo*.

The above table, containing the long and short vowels in use in the English language, may therefore be expressed with the following signs and names :


- | | |
|---|--|
| 1.  = long <i>ah</i> , | — |
| 2.  = long <i>a</i> (<i>ft</i>), | 3.  = short <i>a</i> (<i>ft</i>), |
| 4.  = long <i>ā</i> (<i>ge</i>), | 5.  = short <i>ā</i> (<i>ge</i>), |
| 6.  = long <i>ai</i> (<i>r</i>), | 7.  = short <i>ai</i> (<i>r</i>), |
| 8.  = long <i>ee</i> , | 9.  = short <i>ee</i> , |
| 10.  = long <i>oo</i> , | 11.  = short <i>oo</i> , |
| 12.  = long <i>o</i> , | — |
| 13.  = long <i>aw</i> , | 14.  = short <i>aw</i> , |
| 15.  = <i>ur</i> (<i>fur</i>), | 16.  = short <i>u</i> (<i>p</i>). |

In the pronunciation of No. 16, which is the unmodified vowel-

sound, the tongue occupies no particular position, but the mouth has its round shape; it is therefore represented thus, . In No. 15, which is an amalgamation of the unmodified vowel-sound with the smooth *r*, the mouth is slightly contracted, as in the pronunciation of *bird*; it will, therefore be represented thus: , and as its sound may either be protracted or shortened *ad libitum*, without altering the word any, this quality will be expressed by a combination of the black with the white mark. In calling this sound by name, I propose to pronounce the vowel together with the following *r*, viz., *ur* in *fur*.

§ 48. I now proceed to give the English spelling of the several elementary sounds in use in the English language.

a. VOWELS AND DIPHTHONGS.

1.  = long *ah* :

By *a*, as in *arm*, *father*,


“ *ah*, “ *ah*!

“ *e*, “ *sergeant*,

“ *ea*, “ *heart*,


“ *aa*, “ *to baa*,

“ *i*, “ *reservoir*.

2.  = long *a* (ft) :


By *a*, as in *aft*, *grass*, *calf*,

“ *au*, “ *laugh*.

3.  = short *a* (ft) :

By *a*, as in *black*, *at*,

“ *ai*, “ *plaid*.

4.  = *ā* (ge) :

By *a*, as in *chaos*, *age*,

“ *aa*, “ *haak*, *Aaron*,

“ *ae*, “ *Gaelic*,

“ *ai*, “ *aim*, *hail*,


“ *ao*, “ *gaol*,

“ *ay*, “ *day*,

By *ea*, as in *great*,

“ *ei*, “ *veil*,

“ *ey*, “ *they*.

5.  = short *a* (ge) :


By *e*, as in *end*,

“ *ea*, “ *cleanse*,

“ *ey*, “ *Reynolds*,

“ *ie*, “ *friend*,

“ *a*, “ *Thames*.


6.  = long *ai* (r) :

By *a*, as in *fare*,

“ *ai*, “ *fair*,

“ *e*, “ *there*,

“ *ea*, “ *bear*.

7.  = short *ai* (r) :

By *e*, as in *bell*, *let*,

“ *ea*, “ *health*, *head*,


“ *ei*, “ *heifer*,

“ *eo*, “ *leopard*,


“ *a*, “ *any*,

“ *ae*, “ *Pæstum*,


By *ai*, as in *said*,
 " *ay*, " *says*,
 " *oe*, " *foetitude*.

8.  = long *ee* :


By *e*, as in *eve*, *fever*,
 " *ea*, " *pea*, *heap*,
 " *ee*, " *glee*, *feed*,
 " *ei*, " *seize*, *ceiling*,
 " *eo*, " *people*,
 " *ey*, " *key*,
 " *ae*, " *paean*,
 " *ay*, " *quay*,
 " *i*, " *machine*,
 " *ia*, " *caviar*,
 " *ie*, " *field*, *pier*,
 " *oe*, " *diarrhœa*.

9.  = short *ee* :


By *i*, as in *is*, *big*,
 " *y*, " *hymn*,
 " *ee*, " *been*,
 " *ei*, " *teint*,
 " *o*, " *women*,
 " *u*, " *busy*,
 " *ui*, " *build*.

10.  = long *oo* :


By *o*, as in *lose*, *prove*,
 " *oe*, " *shoe*,
 " *oo*, " *too*, *mood*,
 " *ou*, " *wound*, *soup*,
 " *u*, " *flute*, *rude*,
 " *ue*, " *flue*, *rue*,
 " *ui*, " *fruit*,
 " *ew*, " *blew*,
 " *oeu*, " *mancœuvre*.

11.  = short *oo* :


By *o*, as in *wolf*,
 " *u*, " *put*, *full*,
 " *oo*, " *wood*, *book*,
 " *ou*, " *would*.

12.  = long *o* :


By *o*, as in *so*, *note*, *old*,
 " *oa*, " *oar*, *goat*,
 " *oe*, " *foe*, *toe*,
 " *oo*, " *floor*, *door*,
 " *ou*, " *four*, *mourn*,
 " *ow*, " *flow*, *owl*,
 " *oh*, " *oh* !
 " *eo*, " *yeomen*,
 " *ew*, " *sew*,
 " *eau*, " *beau*,
 " *au*, " *hautboy*.

13.  = long *au* :

By *a*, as in *all*, *talk*,
 " *au*, " *laud*,
 " *aw*, " *law*,
 " *o*, " *off*, *loss*,
 " *oa*, " *broad*,
 " *ou*, " *ought*.

14.  = short *au* :

By *o*, as in *lock*,
 " *a*, " *what*,
 " *ow*, " *knowledge*.

15.  = *u(p)* :

a. In accented syllables.
 By *u*, as in *up*, *but*,

By *o*, as in *love*, *son*,
 “ *oe*, “ *does*,
 “ *oo*, “ *blood*,
 “ *ou*, “ *tough*,

By *o*, as in *fel'o-ny*, *pur'pose*,
 “ *oi*, “ *por'poise*,
 “ *ou*, “ *fu'mous*,
 “ *u*, “ *dep'u-ty*, *cen'sus*.

b. *In unaccented syllables.*

By *a*, as in *A-fresh'*, *men' Ace*,
 “ *ai*, “ *cap'tain*,
 “ *e*, “ *bul'le-tin*, *d'i'Et*,
 “ *ei*, “ *sur'feit*,
 “ *ey*, “ *al'ley*,
 “ *i*, “ *abil'I-ty*, *ru'In*,
 “ *y*, “ *tru'ly*,

16. $\bigcirc = ur$ (*fur*).

By *er*, as in *her*, *herd*,
 “ *ir*, “ *bird*, *fir*,
 “ *or*, “ *word*, *worth*,
 “ *ur*, “ *fur*, *burn*,
 “ *our*, “ *journey*.

§ 49. The table of *diphthongs* is found in § 8.

- | | |
|--|--|
| 1. <i>æ</i> , in <i>aisle</i> , etc. | 4. <i>æu</i> , in <i>gout</i> , <i>stout</i> , |
| 2. <i>æi</i> , in <i>height</i> , etc. | 5. <i>a^oe</i> , in <i>toil</i> , <i>boy</i> , |
| 3. <i>ao</i> , in <i>spouse</i> , <i>fowl</i> , etc. | 6. <i>iu</i> , in <i>cue</i> , <i>tube</i> . |

(Concerning the characters used in describing the diphthongs, see § 8, in the beginning.)

These diphthongs are spelled in the English language in the following manner :

1. *æ* :

By *i*, as in *child*, *hide*, *sign*,
 high,
 “ *y*, “ *by*, *rhyme*,
 “ *ie*, “ *pie*,
 “ *ye*, “ *rhye*,
 “ *ei*, “ *eider*,
 “ *eye*, “ *eye*,
 “ *ui*, “ *guide*,
 “ *uy*, “ *buy*.

2. *æi* :

By *i*, as in *sight*, *side*, *indict*,
 “ *y*, “ *scythe*,
 “ *ei*, “ *height*.

3. *ao* :

By *ou*, as in *our*, *mouse*, *bough*,
 “ *ow*, “ *now*, *fowl*.

4. *æu* :

By *ou*, as in *gout*, *doubt*,
 “ *ow*, “ *bower*.

5. *a^oe* :

By *oi*, as in *toil*,
 “ *oy*, “ *boy*.

6. *iu* :

By *u*, as in *tube*, *Hugh*,
 “ *ue*, “ *due*,
 “ *ui*, “ *juice*,
 “ *eu*, “ *feud*,
 “ *ew*, “ *few*,
 “ *eau*, “ *beauty*,
 “ *ieu*, “ *lieu*,
 “ *iew*, “ *view*,
 “ *you*, “ *you*.

b. CONSONANTS.

§ 50. The consonants of the English language, which have been described in Chapter V., are represented in writing in the following manner :

LABIALS.

1. *The hard consonant :*

By *p*, as in *pit*, *hop*,

“ *pp*, “ *happy*,

“ *gh*, “ *hiccough*,

“ *ph*, “ *diphthong*.

2. *The soft consonant :*

By *b*, as in *bow*, *sob*,

“ *bb*, “ *ebb*, *robber*.

3. *The non-sonant fluid consonant :*

By *f*, as in *fame*, *safe*,

“ *ff*, “ *off*, *traffic*,

“ *ph*, “ *phial*, *graphic*,

“ *pph*, “ *Sappho*,

“ *gh*, “ *laugh*.

4. *The sonant fluid consonant :*

By *v*, as in *vie*, *have*,

“ *f*, “ *of*,

“ *ph*, “ *Stephen*.

DENTALS.

1. *The hard consonant :*

By *t*, as in *top*, *at*,

“ *tt*, “ *Pitt*, *butter*,

“ *th*, “ *thyme*, *phthisic*,

“ *d*, “ *stopped*,

“ *pt*, “ *ptisan*,

“ *ct*, “ *ctenoid*.

2. *The soft consonant :*

By *d*, as in *day*, *bad*,

“ *dd*, “ *add*, *bladder*,

“ *bd*, “ *bdellium*.

3. *Fluid consonants of the first series :*a. *Non-sonant :*

By *th*, as in *thunder*, *wrath*,

“ *phth*, “ *apophthegm*.

b. *Sonant :*

By *th*, as in *then*, *leather*.

4. *Fluid consonants of the second series :*a. *Non-sonant :*

By *s*, as in *sin*, *case*,

“ *c*, “ *cent*, *fence*,

“ *ss*, “ *hiss*, *passing*,

“ *sc*, “ *scene*,

“ *sch*, “ *schism*,

“ *st*, “ *glisten*, *thistle*,

“ *ps*, “ *psalm*,

“ *x*, “ *beaux*.

b. *Sonant :*

By *z*, as in *zeal*, *seize*,

“ *s*, “ *his*, *rose*,

“ *c*, “ *suffice*,

“ *x*, “ *xanthic*,

“ *cz*, “ *czar*,

“ *sc*, “ *discern*,

“ *ss*, “ *scissors*,

“ *zz*, “ *buzz*.

5. *Fluid consonants of the third series :* By *ssi*, as in *scission*.

a. *Non-sonant :*

By *sh*, as in *shade, fish*,
 “ *shi*, “ *fashion*,
 “ *ch*, “ *machine*,
 “ *c*, “ *officiate*,
 “ *ci, ce*, “ *social, ocean*,
 “ *s*, “ *sure, nausea*,
 “ *si*, “ *mersion*,
 “ *t*, “ *satiate*,
 “ *ti*, “ *nation*,
 “ *sc*, “ *fascia*,
 “ *ss*, “ *cassia*,
 “ *ssi*, “ *accession*.

b. *Sonant :*

By *z*, as in *azure*,
 “ *s*, “ *treasure*,
 “ *si*, “ *fusion*,
 “ *ti*, “ *transition*.

GUTTURALS.

1. *Hard consonant :*

By *k*, as in *keep, freak*,
 “ *c*, “ *cap, frolic*,
 “ *q*, “ *queen*,
 “ *qu*, “ *pique, liquor*,
 “ *cc*, “ *hiccough*,
 “ *ck*, “ *black, jacket*,
 “ *ch*, “ *chord, ache*,
 “ *gh*, “ *lough*.

2. *Soft consonant :*

By *g*, as in *go, log*,
 “ *gg*, “ *fagged, laggard*,
 “ *gu*, “ *vogue, guide*,
 “ *gh*, “ *ghost*,
 “ *ck*, “ *blackguard*.

c. SEMI-VOWELS AND VOWEL-CONSONANTS.

§ 51. 1. *R-sound.*

By *r*, as in *roll, pair*,
 “ *rr*, “ *burr, marry*,
 “ *rrh*, “ *myrrh*,
 “ *rt*, “ *mortgage*,
 “ *wr*, “ *write*.

2. *L-sound.*

By *l*, as in *light, file*,
 “ *ll*, “ *ball, alley*,
 “ *ln*, “ *kiln*.

3. *Labial Nasal :*

By *m*, as in *mind, flame*,
 “ *mm*, “ *mammon*,
 “ *mn*, “ *hymn*,
 “ *mb*, “ *lamb, lambda*,
 “ *mp*, “ *contempt*,
 “ *tm*, “ *tmesis*.

4. *Dental Nasal :*

By *n*, as in *no, man*,
 “ *nn*, “ *Ann, banner*,
 “ *mn*, “ *mnemonics*,
 “ *pn*, “ *pneumatics*,
 “ *kn*, “ *know*,
 “ *cn*, “ *Cneus*,
 “ *gn*, “ *gnaw*.

5. *Guttural Nasal :*

By *ng*, as in *thank*,
 “ *ng*, “ *thing*,
 “ *ngue*, “ *tongue*.

6. *Labial Vowel-consonant :*

By *w*, as in *wife, woo*,
 “ *u*, “ *quill, suavity*,
 “ *o*, “ *reservoir*,
 “ —, “ *one*.

7. *Palatal Vowel-consonant* : By *j*, as in *hallelujah*,
 By *y*, as in *year, you*, “ *e*, “ *ewe, hew*,
 “ *i*, “ *million, onion*, “ —, “ *use*.

d. CONSONANTAL DIPHTHONGS.

§ 52. With regard to the consonantal diphthongs, their spelling is found under the head of the single consonants of which they are composed, with the exception of the following combinations, where peculiar characters are used for their representation :

- | | |
|---|--------------------------------------|
| 1. <i>tsh</i> : | 3. <i>ks</i> : |
| By <i>ch</i> , as in <i>church</i> , | By <i>ks</i> , as in <i>steaks</i> , |
| “ <i>tch</i> , “ <i>fetch</i> , | “ <i>cks</i> , “ <i>bricks</i> , |
| “ <i>t</i> , “ <i>nature</i> , | “ <i>cs</i> , “ <i>mimics</i> , |
| “ <i>ti</i> , “ <i>question</i> . | “ <i>x</i> , “ <i>exile</i> , |
| | “ <i>cc</i> , “ <i>accent</i> . |
| 2. <i>dzh</i> : | 4. <i>gz</i> : |
| By <i>g</i> , as in <i>gentle, Gipsy</i> , | By <i>x</i> , as in <i>example</i> , |
| “ <i>ge, gi</i> , “ <i>George, legion</i> , | “ <i>gs</i> , “ <i>figs</i> , |
| “ <i>dge</i> , “ <i>bridge</i> , | “ <i>ggs</i> , “ <i>eggs</i> . |
| “ <i>dg</i> , “ <i>judgment</i> , | |
| “ <i>j</i> , “ <i>judge</i> , | 5. <i>ts</i> : |
| “ <i>di</i> , “ <i>soldier</i> , | By <i>ts</i> , as in <i>kits</i> , |
| “ <i>ch</i> , “ <i>ostrich</i> . | “ <i>z</i> , “ <i>mezzotinto</i> . |

§ 53. Thus far the characters have been exhibited by which the several elementary sounds of the English language are represented in writing ; I now invert this exhibition, and intend to show the number of elementary sounds, expressed by the single and double characters of English orthography.

a. Simple Vowel-signs.

- | | |
|--|---|
| <i>A</i> has 10 sounds : | <i>E</i> has 6 sounds : |
| 1. <i>a</i> , as in <i>all, stalk</i> , | 1. <i>e</i> , as in <i>there</i> , |
| 2. <i>a</i> , “ <i>what</i> , | 2. <i>e</i> , “ <i>bell</i> , |
| 3. <i>a</i> , “ <i>arm</i> , | 3. <i>e</i> , “ <i>end</i> , |
| 4. <i>a</i> , “ <i>fast, sand</i> , | 4. <i>e</i> , “ <i>her</i> , |
| 5. <i>a</i> , “ <i>fat</i> , | 5. <i>e</i> , “ <i>eve</i> , |
| 6. <i>a</i> , “ <i>flare</i> , | 6. <i>e</i> , “ <i>bul'le-tin, diEt</i> . |
| 7. <i>a</i> , “ <i>ale</i> , | |
| 8. <i>a</i> , “ <i>any</i> , | <i>I</i> has 6 sounds : |
| 9. <i>a</i> , “ <i>Thames</i> , | 1. <i>i</i> , as in <i>caprice</i> , |
| 10. <i>a</i> , “ <i>a-fresh, men'ace</i> . | 2. <i>i</i> , “ <i>is, big</i> , |

3. *i*, as in *sir*, *bird*,
4. *i*, “ *child*, *file*,
5. *i*, “ *reservoir*,
6. *i*, “ *ru'in*.

U has 8 sounds :

1. *u*, as in *flute*,
2. *u*, “ *pull*,
3. *u*, “ *but*, *up*,
4. *u*, “ *hurry*,
5. *u*, “ *busy*,
6. *u*, “ *tube*,
7. *u*, “ *suavity*,
8. *u*, “ *cen'sUs*.

O has 12 sounds :

1. *o*, as in *old*,
2. *o*, “ *nor*, (?)

3. *o*, as in *off*,
4. *o*, “ *lock*,
5. *o*, “ *love*,
6. *o*, “ *word*,
7. *o*, “ *women*,
8. *o*, “ *lose*,
9. *o*, “ *wolf*,
10. *o*, “ *one*,
11. *o*, “ *reservoir*,
12. *o*, “ *pur'pose*.

Y has 5 sounds :

1. *y*, as in *yoke*,
2. *y*, “ *hymn*,
3. *y*, “ *myrrh*,
4. *y*, “ *by*,
5. *y*, “ *envy*.

b. Compound Vowel-signs, or Digraphs.

AA has 2 sounds :

1. *aa*, as in *baa*, *Aar*,
2. *aa*, “ *Aaron*.

AE has 4 sounds :

1. *ae*, as in *Gaelic*, *Maese*,
2. *ae*, “ *Aetna*,
3. *ae*, “ *Cesar*,
4. *ae*, “ *aerial*.

AI has 6 sounds :

1. *ai*, as in *aim*,
2. *ai*, “ *air*,
3. *ai*, “ *said*,
4. *ai*, “ *plaid*,
5. *ai*, “ *aisle*,
6. *ai*, “ *cap'tain*.

AO has 3 sounds :

1. *ao*, as in *gaol*,

2. *ao*, as in *extraordinary*,
3. *ao*, “ *aorist*.

AU has 4 sounds.

1. *au*, as in *fault*,
2. *au*, “ *aunt*, *laugh*,
3. *au*, “ *gauge*,
4. *au*, “ *hautboy*.

AW has 1 sound :

1. *aw*, as in *awl*.

AY has 4 sounds :

1. *ay*, as in *day*,
2. *ay*, “ *says*,
3. *ay*, “ *quay*,
4. *ay*, “ *ay*.

EA has 8 sounds :

1. *ea*, as in *beast*,

2. *ea*, as in *great*,
3. *ea*, " *cleanse*,
4. *ea*, " *bear*,
5. *ea*, " *bread*,
6. *ea*, " *earth*,
7. *ea*, " *heart*,
8. *ea*, " *real*.

EE has 5 sounds :

1. *ee*, as in *free*,
2. *ee*, " *breeches*,
3. *ee*, " *ne'er*,
4. *ee*, " *Beelzebub*,
5. *ee*, " *seer*.

EI has 8 sounds :

1. *ei*, as in *deceive*,
2. *ei*, " *surfeit*,
3. *ei*, " *veil*,
4. *ei*, " *heir*,
5. *ei*, " *heifer*,
6. *ei*, " *cider*,
7. *ei*, " *height*,
8. *ei*, " *being*.

EO has 5 sounds :

1. *eo*, as in *people*,
2. *eo*, " *leopard*,
3. *eo*, " *George*,
4. *eo*, " *yeoman*,
5. *eo*, " *feod*.

EU has 2 sounds :

1. *eu*, as in *feud*,
2. *eu*, " *rheum*.

EW has 3 sounds :

1. *ew*, as in *pew*,
2. *ew*, " *drew*,
3. *ew*, " *sew*.

EY has 3 sounds :

1. *ey*, as in *key*,

2. *ey*, as in *they*,
3. *ey*, " *alley*.

IA has 1 sound :

1. *ia*, as in *caviar*, (*cavir*).

IE has 4 sounds :

1. *ie*, as in *pie*,
2. *ie*, " *field*,
3. *ie*, " *sieve*,
4. *ie*, " *friend*.

OA has 4 sounds :

1. *oa*, as in *boat*,
2. *oa*, " *oatmeal*,
3. *oa*, " *cupboard*,
4. *oa*, " *broad*.

OE has 6 sounds :

1. *oe*, as in *shoe*,
2. *oe*, " *toe*,
3. *oe*, " *does*,
4. *oe*, " *foetus*,
5. *oe*, " *foetid*,
6. *oe*, " *doer*.

OI has 6 sounds :

1. *oi*, as in *boil*,
2. *oi*, " *turkois*,
3. *oi*, " *choir*,
4. *oi*, " *scrutoir*,
5. *oi*, " *reservoir*,
6. *oi*, " *porpoise*.

OO has 4 sounds :

1. *oo*, as in *cool*,
2. *oo*, " *book*,
3. *oo*, " *blood*,
4. *oo*, " *floor*.

Ou has 9 sounds :

1. *ou*, as in *arouse*,

2. ou, as in *gout*,
3. ou, " *ought*,
4. ou, " *course*,
5. ou, " *rough*,
6. ou, " *journey*,
7. ou, " *youth*,
8. ou, " *could*,
9. ou, " *famous*.

***UE* has 2 sounds :**

1. *ue*, as in *due*,
2. *ue*, “ *blue, rue*.

UI has 5 sounds :

1. *ui*, as in *juice*,
2. *ui*, “ *fruit*,
3. *ui*, “ *build*,
4. *ui*, “ *guile*,
5. *ui*, “ *ruin*.

O W has 3 sounds:

1. *ow*, as in *now*,
2. *ow*, “ *flow*,
3. *ow*, “ *knowledge*.

UY has one sound, as in *buy*.

YE has one sound, as in *rye*.

OY has 1 sound, as in *boy*.

c. *Triple Vowel-signs, or Trigraphs.*

AYE has one sound, as in *aye*. 2. *ieu*, as in *Messieurs*,
3. *ieu*, " *lieutenant*.

***EAU* has 2 sounds :**

1. *eau*, as in *beauty*,
2. *eau*, “ *beau*.

IEW has one sound, as in *view*.

OEU has one sound, as in *manoeuvre*.

EYE has one sound, as in *eye*.

***IEU* has 3 sounds:**

1. *ieu*, as in *adieu*,

UOY has one sound, as in *buoy*.

d. *Simple Consonantal and Semi-vowel Signs.*

This table includes all simple signs of the English alphabet, with the exception of the vowel-signs.

B represents one sound, as in 3. *c*, as in *suffice*,
boy, babe. 4. *c*, " *ocean.*

It is mute :

5. c, " *cicerone*.

In *bd*, as in *bdellium*,
 “ *bt*, “ *doubt, subtle*,
 “ *mb*, “ *dumb, climb*.

It is mute :

In *ct*, as in *victuals*, *indict*.

D represents 3 sounds :

- C* represents 5 sounds :
1. *c*, as in *cap*, *arc*,
 2. *c*, " *cent*, *cider*,

1. *d*, as in *day, bad*,
2. *d*, " *hopped*,
3. *d*, " *soldier*.

It is mute in *handkerchief*,
Wednesday, etc.

F represents 2 sounds :

1. *f*, as in *fame*, *life*,
2. *f*, “ *of*.

It is mute in *halfpenny*.

G represents 5 sounds :

1. *g*, as in *go*, *log*,
2. *g*, “ *gem*, *gill*,
3. *g*, “ *rouge*,
4. *g*, “ *poignant*,
5. *g*, “ *long*.

It is mute :

In *gl*, as in *oglio*,
“ *gm*, “ *phlegm*,
“ *gn*, “ *gnarl*, *bagnio*.

H represents 1 sound, as in *hat*,
help.

It is mute, as in *humble*, *heir*.

J represents 2 sounds :

1. *j*, as in *join*,
2. *j*, “ *hallelujah*.

K represents 1 sound, as in
keep, *break*.

It is mute, as in *know*, *knight*.

L represents 2 sounds :

1. *l*, as in *life*, *bold*,
2. *l* (*r*) as in *colonel*.

It is mute :

In *ld*, as in *could*, *chaldron*,
“ *lf*, “ *calf*,
“ *lk*, “ *talk*,
“ *lm*, “ *calm*,
“ *ls*, “ *halser*.

M represents 2 sounds :

1. *m*, as in *man*, *from*,

2. *m*, as in *comptroller*.

It is mute, as in *mnemonics*.

N represents 2 sounds :

1. *n*, as in *no*, *nun*,
2. *n*, “ *ink*.

It is mute :

In *mn*, as in *hymn*, *limn*,
“ *ln*, “ *kiln*.

P represents 2 sounds :

1. *p*, as in *pit*, *top*,
2. *p*, “ *cupboard*.

It is mute :

In *pn*, as in *pneumatic*,
“ *pph*, “ *sapphire*,
“ *ps*, “ *psalm*,
“ *pt*, “ *ptisan*, *receipt*, *at-*
tempt,
“ *rps*, “ *corps*.

Q represents 1 sound, as in *quill*.

R represents 2 sounds :

1. *r*, as in *row*,
2. *r*, “ *her*.

It is mute :

In *rl*, as in *Marlborough*,
“ *rs*, “ *worsted*.

S represents 4 sounds :

1. *s*, as in *sick*,
2. *s*, “ *close*,
3. *s*, “ *nausea*,
4. *s*, “ *treasure*.

It is mute :

In *sl*, as in *aisle*, *isle*,
“ *sn*, “ *demesne*,
“ *sc*, “ *viscount*; at the end
of words, as in *cha-*
mois, *corps*.

T represents 3 sounds :

1. *t*, as in *tin*, *pit*,

2. *t*, as in *nation*,

3. *t*, “ *feature*.

It is mute :

In *st*, as in *christen*, *chestnut*,
waistcoat, *castle*.

“ *rt*, as in *mortgage*; at the
end of words, as in
ragout, *depot*.

V represents 1 sound, as in *vile*, *love*.

W represents one sound, as in *wise*.

It is mute :

In *wr*, as in *write*,

“ *sw*, “ *sword*, *answer*,

“ *tw*, “ *two*.

Y (see among vowels.)

Z represents 3 sounds :

1. *z*, as in *zeal*, *freeze*,

2. *z*, “ *azure*,

3. *z*, “ *mezzotint*.

e. Compound Consonant-signs.

Ch has 4 sounds :

1. *ch*, as in *church*,

2. *ch*, “ *ostrich*,

3. *ch*, “ *champaign*,

4. *ch*, “ *ache*, *Christ*.

It is mute, as in *drachm*, *yacht*.

Ck has 2 sounds :

1. *ck*, as in *back*, *brick*,

2. *ck*, “ *blackguard*.

Gh has 4 sounds :

1. *gh*, as in *ghost*,

2. *gh*, “ *laugh*, *rough*,

3. *gh*, “ *hough*, *lough*,

4. *gh*, “ *hiccough*.

It is mute, as in *Armagh*, *us-*
quebaugh, *weigh*, *nigh*, *bough*,
though, *through*, *Hugh*.

Ng has 2 sounds :

1. *ng*, as in *thing*,

2. *ng*, “ *finger*.

Ph has 4 sounds :

1. *ph*, as in *phial*, *Joseph*,

2. *ph*, as in *Stephen* (v).

3. *ph*, “ *aphelion* (f-h).

4. *ph*, “ *diphthong* (p).

Sc has 4 sounds :

1. *sc*, as in *scour*, *sceptic*,

2. *sc*, “ *scene*,

3. *sc*, “ *conscience*,

4. *sc*, “ *discern*.

Sch has 2 sounds :

1. *sch*, as in *school*,

2. *sch*, “ *schism*,

Sh has one sound, as in *ship*,
fish.

Th has 3 sounds :

1. *th*, as in *thank*, *bath*,

2. *th*, “ *than*, *mother*,

3. *th*, “ *thyme*, *isthmus*.

X has 4 sounds :

1. *x*, as in *expect*, *exile*,

2. *x*, “ *example*,

3. *x*, “ *beaux*,

4. *x*, “ *xanthic*.

After thus showing the full extent of the field of my investigations, and after giving to the reader some idea of the work before me, I close this first part. In the next I shall commence the work of solving the problem of English pronunciation and orthography, beginning with a history of the formation of the English tongue.

N O T E.

The Committee beg leave to append to the above the following note :

With regard to the character, so generally ascribed in Germany, of greater softness to the sounds of “d,” “g,” and “b,” when respectively compared with those of “t,” “k,” and “p,” it appears to the members of the committee that the production of the latter sounds is accompanied with less force of breath and of the muscular action of the tongue, and is accompanied with a larger volume of intonation than that of the former. It therefore seems to them that the character of greater hardness, rather than of softness, would be naturally attached to “d,” “g,” and “b.” They would ask whether, instead of the more recent ascriptions of softness and hardness, and if we reject the scholastic distinctions of slender, middle, and rough, *tenues*, *mediæ* and *aspiratæ*, *ψιλά*, *μέσα*, and *δασέα*, a more correct idea would not be given by the use, in this case, of the words delicate or well-defined, as applies to “t,” “k,” and “p,” and coarser, to “d,” “g,” and “b.”

They observe in this, as in some other works of great learning and just reputation, from the German school, a prevailing or total omission of the theta and the aspirated delta, or Anglo-Saxon *θ*, as they occur in the English words “thick” and “this.” The committee avoid the inquiry whether the pronunciation of the Latin contained these sounds, and of the authority, in this respect, of the Greek, kept up as a living language to our days; but certainly the theta and the aspirated delta cannot be rejected from the English. They do not appear to the committee as hissing sounds, but *sui generis*. They seem to be produced by protruding the tongue quite beyond the edge of the incisor teeth, and then emit-

ting a more delicate current of voice, prevented from forming the sound of "s" or "z" by the approach of the soft surface of the tongue so near as to render the sound quite smooth.

What are called the long English vowels, "a," "i," and "o," appear to the committee to be, in each instance, diphthongal; and they think that this will appear if these vowels are much prolonged in their pronunciation. Thus, if we express the force of "e" in the English word "there" by the character "é," and the common sound of "e," as in "me," by the simple letter "e," long "a" will appear to be composed, consecutively, of "ê" and "e," which we may write ê-e, or if greatly prolonged, ê-ê-ê-ê-e-e.

"I" seems to be composed of "a" as in "ah," and in various French words; followed by "e," as when called long "e." Thus, if we express "a," as in "ah," by "^Fa," and use the common "e," we shall find "ī" to be "^Fa_e," or, when prolonged, ^Fa_a^Fa_a^Fa_a^Fa-e-e.

"O" they would form by a sound not used in English in its simple form, that of "ô" in the French word "dôme;" (a sound which does not seem to them identical with English "u" in "cut;") and to this they would add the sound of "oo:" "ō" would then be "ô-oo," or, if prolonged, ô-ô-ô-ô-oo-oo. It is believed to be impossible to elongate "ā," "ī," or "ū," as can be done with every simple vowel, without dwelling on one or other of the above initial or concluding sounds.